

### III. REMARKS

Claims 1-20 remain pending, and are rejected under 35 USC 103(a) as allegedly being unpatentable over Morioka et al., (US Patent 6,611,728) “Morioka” in view of Gillenwater et al. (US Patent 6,557,115) “Gillenwater.” Applicant does not acquiesce in the correctness of the rejections and reserves the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicant reserves the right to pursue the full scope of the subject matter of the claims in a subsequent patent application that claims priority to the instant application.

Applicant respectfully submits that all claims are allowable over the cited art. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” MPEP 706.02(j).

Beginning first with independent claim 9, Applicant recites, *inter alia*: “*simulating the operation of the device; [and] determining a set of features in the device from the simulation that are potentially causing the failure.*” Nowhere does either of the cited references teach or suggest any sort of simulation process. Instead, Morioka teaches an inspection system that utilizes real (not simulated) inspections to map defects, and Gillenwater teaches a system for rearranging testing sequences based on prior real (not simulated) testing results. Neither reference teaches or suggests simulating the operation of a device. Moreover, the Office Action does not even address the simulation feature recited in claim 9. Accordingly, for this reason, as well as others,

Applicant submits that claim 9 and the claims that depend therefrom are allowable over the art of record.

Applicant also respectfully traverses the rejection of claim 1 (and similarly claim 15). Claim 1 recites: “*a defect table that associates previously studied features with known failures; and a fault isolation system that compares an inputted set of suspected faulty device features with the previously studied features listed in the defect table in order to identify causes of the failure.*” Applicant initially notes that the Office Action is unclear as to what specific features in the prior art teach the claim features in claim 1. In particular, Applicant recites the following concepts in claim 1: (1) previously studied features; (2) suspected faulty device features; and (3) failures. Applicant assumes that the Office is interpreting the inspection history list 109 of Morioka as allegedly teaching *previously studied features*. Even if, *arguendo*, this is true, Applicant submits that nowhere does Morioka also teach or suggest inputting “suspected” faulty device features. Instead, Morioka teaches only collecting different types of defect inspection data from the **entire** wafer, and then storing that information in the inspection history list (see e.g., Figure 1). Thus, Morioka teaches storing the entire inspection history for a wafer in order to provide a complete set of defect historical information for a wafer. Conversely, claim 1 recites comparing suspected faulty device features with the previously studied features.

Moreover, claim 1 recites comparing the inputted set of suspected faulty device features with the previously studied features in order to identify causes of a failure. Nowhere does either of the cited references teach or suggest such a comparison operation to identify the cause of a failure. The Office Action alleges that such a feature is taught in columns 10 and 13. However, a careful review of the cited sections reveals no teaching or suggestion of a compare operation. At best, the cited sections teach searching the inspection history lists 109 of multiple wafers in

order to find clusters of similar defects. However, nowhere do the sections teach or suggest *a fault isolation system that compares an inputted set of suspected faulty device features with the previously studied features listed in the defect table in order to identify causes of the failure.*

Furthermore, the Office Action appears to contradict itself by stating that “Morioka fails to disclose re-using the defected information stored in the defected table to diagnose a failure in an electronic device.” Applicant is uncertain as to the intent of this statement since Applicant does not claim “re-using.” The Office Action then goes on to state that Gillwater teaches maintaining a failure database containing a history of past failures. However, Gillwater’s teachings are limited to maintaining past information in order to determine how to arrange tests. The stored information in Gillwater is not used to diagnose a failure. Accordingly, Applicant fails to see how this combination teaches or suggests the claimed invention. For these reasons, Applicants submits that claims 1 and 15 are not obvious in view of the cited art.

With regard to independent claim 18, Applicant is unsure of whether the claim was even examined. Similar to the above discussion, Applicant recites determining data for *suspected locations and features of a fault*. Nowhere does either of the cited references teach or suggest determining data for **suspected** locations and features of a fault. Accordingly, Applicant submits that claim 18 is allowable over the art of record.

Each of the claims not specifically addressed herein is believed allowable for the reasons stated above, as well as their own unique features.

Applicant respectfully submits that the application is in condition for allowance. If the Examiner believes that anything further is necessary to place the application in condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael F. Hoffman". The signature is fluid and cursive, with a horizontal line extending to the right from the end of the name.

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Michael F. Hoffman  
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Dated: 2/28/07

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